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Facebook Face-ism: Perception of Competency in Social Media Profile Images and its Relationship to Gender

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Abstract

This study investigated the impact of facial prominence in Facebook profile images on perceived competency. It also considered the gender of the subject in profile image and the gender of the respondent. A survey was administered to 177 undergraduate students asking them to rate the level of perceived competency for four Facebook profile images. Results indicated that Facebook profile images with high face-ism levels were rated significantly higher than that of images with low face-ism levels. Contrary to predictions, profile images of females were rated significantly more competent than images of males. Gender of the respondent played a significant role in evaluating competency in three of the four cases with female participants rating images of males and females significantly higher than male participants.

Keywords: Face-ism, competency, gender, Facebook, social media

Facebook Face-ism: Perception of Competency in Social Media Profile Images and its Relationship to Gender

The study of gender perception differences and stereotypes throughout various media has been an extensively examined topic for scholars over the past few decades. In previous research, this examination has taken place primarily in the realm of traditional media such as magazine advertisements, television commercials, political campaigns, and so forth. A study conducted by Archer, Iritani, Kimes, and Barrios (1983) suggested that some of these differences could be better understood under the framework of "face-ism." Face-ism refers to the phenomenon where facial prominence is considered in order to determine whether or not more positive qualities can be attributed to the subject in an image (Archer, Iritani, Kimes, & Barrios, 1983). The face-ism index is measured through a series of ratios that examine the amount of the face that is presented in a photograph, drawing, image, and so forth.

Much of the research that has been dedicated to face-ism has concluded that women and men are depicted differently throughout the media, with women being visually presented with lower facial prominence (Konrath, Au, & Ramsey, 2012). Facial prominence refers to how much emphasis is placed upon the face, versus the entire body as a whole. Konrath, Au, and Ramsey (2012) discuss the consequences in varying prominence levels in saying, "Because women are typically portrayed with more of their bodies, and because these portrayals have consequences that parallel gender stereotypes, face-ism can be seen as a subtle type of sexism" (p. 476). The majority of these studies have examined this phenomenon throughout a multitude of traditional print media. This insight has been immensely influential when attempting to understand the perceptions that are associated with differences in the presentation of men and women. This is especially true when considering the attributes that are associated with a low face-ism index such

as compassion and likeability rather than those associated with a high face-ism index such as power, intelligence, and ambition (Konrath et al., 2012)

With the rise of image-based online social networking sites such as Facebook, face-ism may play an even larger role in building gender perceptions and perpetuating stereotypes than scholars previously considered. A recent study conducted by Reichart and Cooley (2009) focused specifically on the presence of the face-ism phenomenon in Facebook images. Although it was found that face-ism does, in fact, occur in self-posted Facebook profile pictures, little research has been dedicated to the impact that this might have on viewers' perceptions. For example, Reichart and Cooley (2009) found statistically significant data to support the hypothesis that self-posted profile images of men would have higher face-ism index scores than that of women. There was also research to suggest that age, ethnicity, and number of friends listed may play contributing factors to the perception of face-ism indices (Reichart & Cooley, 2009). However, what does this mean when considering how these particular images influence our perceptions of who they are or what they might be capable of? For the purpose of this study an examination into the effects of face-ism throughout Facebook images is necessary in order to determine to what affect this phenomenon may have on both perceptions and gender stereotypes.

Rationale

The current literature on face-ism generally concludes that higher facial prominence is more commonly associated with images of men and elicits impressions of dominance and power. When dealing with political campaigns and media, these characteristics were positively correlated with the perception of male and female candidates' competencies (Levesque & Lowe, 1999). Konrath and Schwarz (2007) also found that the high face-ism indices of male politicians have real and measurable effects on the perception of the capabilities of men and women in

positions of power. This could have damaging effects on not only the *perception* of powerful women, but their integration into society, as well. According to Simon and Hoyt (2012), counter-stereotypical images of women in positions of power and leadership can actually break rigid gender role beliefs and stereotypes. Leadership self-perceptions for women are greatly influenced by the media images that surround them on a daily basis (Simon & Hoyt, 2012).

When considering the prevalence of social media such as Facebook, Twitter, and Instagram, the importance of studying how people are visually portrayed is of great value. If the phenomenon of face-ism continues to occur with regards to Facebook profile images, then the persistence of gender stereotypes and impressions throughout social media can be further studied and perhaps corrected. A study that examines the effects of face-ism in Facebook images is imperative in order to gain a better understanding of how media might continue to perpetuate the culturally constructed ideals of masculinity and femininity. According to Rose et al. (2012), "Because social networks such as *Facebook* are relatively recent phenomenon, the content of self-presentation profile pictures has not been analyzed in great depth" (p. 590). Their study concluded that when coded for, Facebook profile pictures did not deviate greatly from gender stereotypes and traits found in more traditional media (Rose et al., 2012). Therefore, if Facebook profile pictures are a continuation of previously established gender ideals, then face-ism may be much more dominant and persuasive in shaping gender-based perceptions than previously considered.

Literature Review

Prior literature has pointed to the importance of understanding how media images effect conceptions of gender differences and has even shifted focus on newer media such as online social networking sites. Current gender stereotypes seen in social media have often been

attributed to the images found in more traditional media (Rose et al., 2012). Face-ism, specifically, has also been investigated as a possible source of the discrepancies between masculine and feminine notions of power, dominance, intelligence, and overall competency levels. Because previous research has already established the continuance of face-ism in online social media, this paper will seek to further examine the relationship between gender stereotypes, online self-presentations, and face-ism throughout various Facebook profile pictures. The gendered differences that arise out of face-ism indices, particularly in the popular domain of online social media, require a continued discussion about what this could mean for both gender role perceptions and attributes.

Gender Stereotypes

For the purpose of this paper, prior research dedicated to the differences in gender portrayals, roles, and attributes that are displayed throughout various forms of media was reviewed. Typically, the central focus of such research has been on the strongly held beliefs that are then manifested into highly pervasive and visible stereotypes that govern perceptions of masculinity and femininity. Reichart and Cooley (2009) define stereotypes as "beliefs that hold that all members of a group share 'the same set of characteristics, attitudes, or life conditions'" (p. 2). Subsequently, gender-role stereotypes are developed through a combination of socialization, communication, and culturally shared norms and values (Reichart & Cooley, 2009; Rose et al., 2012). While a plethora of previous research has examined the continuance of gender stereotypes throughout traditional media such as print advertisements and television commercials, online social media has presented scholars with an entirely new form of social communication and gender-role negotiation.

According to Rudman and Phelan (2010), gender beliefs can either be developed through *implicit gender stereotypes* or *implicit self-concepts.* Implicit gender stereotypes are a result of automatic associations that occur between men and women and subsequent attributes, roles, and abilities. These stereotypes are learned quite early throughout one's life, making the development and application of such gender perceptions occur without "intent or conscious realization" (Rudman & Phelan, 2010, p. 193). On the other hand, implicit self-concepts are the automatic associations that occur between the self and subsequent personality traits. As Rudman and Phelan (2010) point out, implicit beliefs are much more malleable than their explicit counterparts. Therefore, priming effects and situational prompts can greatly affect the implicit gender perceptions and stereotypes that are deeply rooted within our culture. For example, if women are primed with television ads displaying stereotypical images, then implicit female stereotype beliefs are intensified (Rudman & Phelan, 2010).

This concept was further developed by Simon and Hoyt (2012) who examined the effects that media depictions of gender stereotypes could have on women's leadership aspirations and perceptions of female power. According to this study, "Habitual exposure to images of women and men engaging in traditional gender role activities in the media serves to perpetuate and strengthen gender stereotypes" (Simon & Hoyt, 2012, p. 234). In fact, Simon and Hoyt (2012) found that women who were presented with images of women in counter-stereotypical roles reported more nontraditional gender role beliefs. Similarly, when primed with these images before performing a leadership task, women also reported "lower negative self-perceptions and greater leadership aspirations" (Simon & Hoyt, 2012, p. 241). Thusly, when considering the omnipresence of today's media, particularly with the emergence of the Internet and social networking sites, the malleability of implicit gender beliefs becomes even more apparent.

The rise of social media poses new questions for scholars who seek to better understand the development and persistence of gender stereotypes in this new form of communication. Bailey, Steeves, Burkell, and Regan (2013) discussed the possibilities of gender belief transformations that were considered with the advent of social media. For example, social media was said to have presented women with an avenue to "trouble dominant, stereotypical definitions of 'girl' and gender-based constraints that inhibit the achievement of social equality" (Bailey, Steeves, Burkell, and Regan, 2013, p. 93). However, according to Levesque and Lowe (1999), this has not been the case throughout previous examples. In fact, media depictions of men and women "mirror societal attitudes and act to perpetuate gender stereotypes" (p. 241). In other words, media presentations have been found to activate and reinforce existing gender stereotypes. Therefore, if increased exposure to stereotypical gender portrayals in traditional media has been linked to an increased acceptance of those very gender-role beliefs, then social media will merely facilitate this transfer (Levesque & Lowe, 1999).

Similarly, according to Rose et al. (2012), the gender stereotypes that are found in social media such as Facebook profile pictures are a mere perpetuation of the stereotypes that are presented in more traditional media. As seen in this study, culturally established traits such as *active*, *attractive*, *dependent*, *dominant*, *independent*, and *sentimental* can be found with respect to gender stereotypes throughout a series of self-selected Facebook profile pictures (Rose et al., 2012). While the traits *sexy* and *submissive* were not found to be statistically significant determinates of masculinity or femininity, the other six traits provided a basis for the notion that social media images act as a continuation of previously established gender stereotypes.

Face-ism Defined

According to Archer et al. (1983), the literature on gender differences that provide an emphasis on visual media could be better understood with an examination of facial prominence. In a series of five independent studies, Archer et al. (1983) sought to better comprehend "the degree to which visual depictions of men and women differ in terms of facial prominence" (p. 726). Throughout their research, they established that the level of facial prominence was consistently higher in images of men than in images of women. Subsequently, the authors concluded that further research was needed to better understand what these representations communicated to viewers with regards to gender beliefs, attributes, abilities, and so forth (Archer et al., 1983). In order to test this hypothesis, Archer and his colleagues developed the *face-ism index*, which in its simplest terms would measure the facial prominence of men and women throughout a series of images. This methodology included the ratio of two linear measurements: the first being the numerator, or distance from the top of the head to the lowest point of the chin, and the second being the denominator, or distance from the top of the head to the lowest observable part of the subject's body (Archer et al., 1983). When the numerator is divided by the denominator, a measurement emerges that falls within an index ranging from .00 (*low*) to 1.00 (*high*). A low index indicates the minimization of the face, and perhaps the person, while a high index indicates that the face dominates the image.

Because of the relative straightforwardness of the face-ism index, the physical measurements of facial prominence have been regarded as highly reliable and consistent throughout the literature (Archer et al., 1983). What becomes much more unclear throughout this method of research are the effects that face-ism might have on the perception of gender stereotypes, norms, and attributes. For example, what does it mean for society that women are

more often visually depicted with a lower facial prominence than men throughout the media? In Archer et al.'s fifth study, a high facial prominence was said to evoke perceptions of intelligence, ambition, and physical attractiveness (Levesque & Lowe, 1999). Therefore, when men are represented with their faces and women with their bodies, this phenomenon communicates something noteworthy to the viewer about gender stereotypes and beliefs (Schwarz & Kurz, 1989).

In a replication study conducted by Schwarz and Kurz (1989), the authors sought to determine whether more male-oriented stereotypical traits such as intelligence and ambition could be attributed to a higher facial prominence, or face-ism index. Consequently, this type of research expounded upon the presence of gender inequity in media portrayals, particularly as it related to political campaigns and leadership roles (Schwarz & Kurz, 1989). In this particular study, facial prominence was *not* found to be a moderator of gendered attributes, but rather a mechanism for eliciting positive attributes, in general. With that being said, research conducted by Matthews (2007) found that gender differences with respect to face-ism were present when occupational status was taken into consideration. For example, although facial prominence may not produce immediate gendered responses, when compounded by the visual representation of physical or intellectual occupations, differences between men and women emerged (Matthews, 2007). In photographs depicting particular occupations, men were disproportionately shown with higher face-ism indices than women, suggesting that intellectual qualities and physical abilities are more closely associated with men (Matthews, 2007).

Following the original study of Archer and his colleagues, research conducted by Copeland (1989) attempted to understand the effect that television would have on face-ism and varying depictions of men and women. At the time, the expansion of face-ism effects into the

medium of television encouraged future researchers to explore this phenomenon as it occurred in newer media. For example, Milburn, Carney, and Ramirez (2001) chose to observe how cognitive schemas of gender biases can "have an effect on perceptions of ability and performance" (p. 277). For this study, computer clipart images were examined and found to be much more representative of males in desirable and prominent roles (Milburn, Carney, & Ramirez, 2001). Szillis and Stahlberg (2007) then conducted one of the first face-ism studies using images found on Internet webpages, but it was not until Reichart and Cooley (2009) that face-ism was studied using newer media such as Facebook. These subsequent studies opened the door to a host of questions and concerns regarding how the effects of face-ism on gender perceptions may have shifted with the rise of new technology and forms of communication.

Consequences of gendered face-ism. Because of the conflicting literature that has materialized when dealing with facial prominence and the perception of gender stereotypes, additional research is imperative. If men and women are purposely and consistently depicted differently with regards to face-ism, then this must communicate something significant to viewers. According to Zuckerman and Kieffer (1994), previous studies suggested that higher facial prominence conveyed impressions of dominance and control while lower facial prominence conveyed warmth and compassion. Because both categories of attributes are rooted in gender stereotypes, the logical conclusion would be that since men are more often depicted with higher face-ism indices, then perceptions of dominance and control would follow (Zuckerman & Kieffer, 1994). In the subsequent study, Zuckerman and Kieffer (1994) pointed to the possibility of intervening variables as determinates of face-ism impressions, such as race and ethnicity. After all, power structures are not limited to gender differences, making it difficult to examine such traits solely through a gendered lens.

With that being said, a significant amount of research has been dedicated to the consequences that the face-ism phenomenon could have on the establishment and endurance of gender stereotypes. In a study by Konrath et al. (2012), an investigation into facial prominence with regards to male and female politicians was conducted. It was concluded that high facial prominence could lead to "evaluations of competence versus warmth and likeability" (Konrath et al., 2012, p. 485). When considering the gendered underpinnings of such findings, the importance of future research becomes apparent. The authors also suggest that understanding the implications of face-ism has become imperative in recent years with the development of webpages, social networking sites, and so forth. Similarly, the "double-bind" that female leaders often find themselves in makes it difficult to determine whether or not higher or lower facial prominence in self-selected visuals is the best course of action (Konrath et al., 2012). For example, a female politician may think it is best to be congruent with stereotypically feminine attributes such as warmth and compassion, but may be ridiculed for lacking the necessary leadership qualities needed for professional progression. On the other hand, if she presents herself with higher facial prominence, evoking more leadership-based attributes, she may be similarly ridiculed for not properly fitting into her prescribed gender role (Konrath et al., 2012).

Szillis and Stahlberg (2007) expand upon such research, seeking to better understand whether or not face-ism occurs and is relevant with the advent of the Internet. According to the authors, the Internet is a "modern medium where changes in stereotypes might be detected very early compared to more traditional media" (Szillis & Stahlberg, 2007, p. 5). Their study examined the webpages of both men and women considered to have high status social positions in German universities and German Parliament. By attempting to control for the perception of intellect and savvy, Szillis and Stahlberg (2007) hoped to gain further knowledge about the face-

ism effect for individuals in high-ranking occupational positions. According to Eagly and Steffen (1983), social role theory posits that men and women should not differ in facial prominence when they are in equal positions of power. As explained by Szillis and Stahlberg (2007), the social role of the person presented through the visual should act as a "moderator of facial prominence" (p. 4). However, the findings of their study concluded that this was not actually the case. Instead, face-ism indices were still found to be significantly different between men and women, even when their social roles were held constant. From this research, the authors found that face-ism does, in fact, occur in newer media and maintains similar gender-roles and stereotypes that were prevalent throughout prior research. This study also speaks to the importance of future research for a more thorough examination as to *why* men and women are depicted differently with regards to facial prominence (Szillis & Stahlberg, 2007). When considering the original findings of Archer et al. (1983) where higher facial prominence was determined to be positively correlated with higher ratings of intelligence and ambition, then one must consider what effect this has on culturally pervasive gender stereotypes. If women are depicted with their bodies and men with their faces, then such correlational findings may be indicative of the perpetuation of particular gendered attributes.

Face-ism and competency levels. According to Konrath and Schwarz (2007), the gender differences that are found in visuals depicting varying levels of face-ism could have significant effects on perceptions of competency. For example, Levesque and Lowe (1999) point to the possibility that the link between high facial prominence and traits such as dominance and ambition may be due to the association of the head with rational thought processes. Similarly, stereotypical female traits of warmth and compassion may be related more so to the body as a whole (Levesque & Lowe, 1999). As Konrath et al. (2012) conclude this male bias towards

higher facial prominence may elicit impressions of increased power, higher positioning, and higher education levels. If this holds true, the logical conclusion would be that face-ism levels could have damaging effects on perceptions of female competency.

According to Schwarz and Kurz (1989), "the media's pervasive bias to depict men with a higher degree of facial prominence than women elicits higher attributions of competence and fosters the perception of men as more intelligent, active, and assertive than women" (p. 315). However, the authors contest that such attributions of competence are also inclusive of traits such as warmth, compassion, and likeability when the viewers are primarily women (Schwarz & Kurz, 1989). Similarly, men are not ridiculed or required to pay for increased attributions of stereotypical traits. Instead, this face-ism bias allows for men to be perceived as having "brighter minds *and* warmer hearts" (Schwarz & Kurz, 1989, p. 315).

Similarly, Szillis and Stahlberg (2007) found that in images attached to curriculum vitae, men were presented with significantly higher levels of face-ism and were thus potentially judged as more competent than their female counterparts. Although research has yielded generally minute differences in competency levels with regards to facial prominence, these small discrepancies may have enormous impacts in the selection process when considering men and women for top leadership positions (Szillis & Stahlberg, 2007). With the advent of social networking sites and various other forms of social media, this difference becomes even more troublesome. If women are self-selecting images that put greater emphasis on their bodies, which elicits perceptions of inferior competency levels in comparison to men, then this could have vast implications on both societal stereotypes and impressions of women in power. Similarly, such research has not examined to what effect this perceived difference in competency levels could have on other gender attributes such as trustworthiness and overall notions of goodwill. In other

words, if men with higher facial prominence are seen as more competent than their female counterparts, what else is this saying about masculinity and male dominance, as a whole?

Self-Presented Face-ism through Online Social Media

According to Rose et al. (2012), Goffman's theory on self-presentation suggests that all individuals are concerned with the presentation of one's self throughout all social interactions. The emergence of social media such as Facebook and Twitter has put emphasis on self-selected images and content that individuals choose to share with others, which generates a manageable and negotiable online persona. While a plethora of self-presentation research has been dedicated to face-to-face communication, little has been conducted with regards to social media, with even fewer studies dedicated to virtual gender roles (Rose et al., 2012). As explained by Reichart and Cooley (2009), the original methodology for the study of face-ism included visuals taken by the mass media, without any control over their content or presentation. Costa and Bitti (2000) took this a step further by examining face-ism through the evaluation of one's own pictures, but found the effect to be reversed. However, very little research has extended this method of examining visual depictions of facial prominence and applied it to social media images that are self-selected (Reichart & Cooley, 2009).

In a study conducted by Reichart and Cooley (2009), the authors decided that it was necessary for the research on face-ism to expand into the realm of social media. They caution about the troubles that come about when examining self-presented images, particularly with websites such as Facebook where profile pictures can be personalized and manipulated to better fulfill impression management needs (Reichart & Cooley, 2009). While one may think that self-presentation of social media images gives complete autonomy to the user, research has suggested that Goffman's theory is not free from cultural and societal influences (Reichart & Cooley,

2009). When considering the pervasiveness of gender stereotypes in more traditional media, it is not surprising that many self-selected Facebook profile images are congruent with such influences (Rose et al., 2012). Reichart and Cooley (2009) argue that online environments are not much different than real-life ones, making self-presentations a likely depiction of internalized gender roles, traits, and norms.

Despite the control and censorship that accompanies self-selected social media images, the face-ism effect is not lost. Szillis and Stahlberg (2007) found that the Internet as a new medium did not diminish the persistence of the face-ism phenomenon. Instead, new research into what that control of self-presentation could mean for the communication of one's self to the public through social networking sites was imperative. With respect to Facebook, users are able to convey information about hobbies, school/work, interests, and so forth through the content and photographs that they have selected themselves (Reichart & Cooley, 2009). Therefore, when given such control over their own profile images, will they adopt "social and media influences with regards to stereotypes and adhere to traditional face-ism standards, or break from the traditional norm" (Reichart & Cooley, 2009, p. 11)? This very question becomes a central focus of the study at hand, particularly when concerned with gender stereotypical traits that depict varying levels of competency.

Hypotheses

This study explored the following hypotheses:

H1: Facebook profile images of men and women with high facial prominence will receive a significantly higher mean rating on variables related to perceived competency than profile images with low facial prominence.

H2: Respondents will rate perceived competency significantly higher for Facebook profile images of men than for Facebook profile images of women.

H3: Respondents' gender will have a significant impact on perceived competency ratings for Facebook profile images of men and women.

Methods

Pre-Tests

As proposed by Costa and Bitti (2000), it is important to note the perception of attractiveness levels pertaining to the photographs prior to any evaluation of the face-ism effect. In previous studies, it was found that subjects that were considered more attractive were often judged more positively (Costa & Bitti, 2000). Using a small sample of participants, a pre-test was conducted where a series of images were evaluated to determine perceived levels of attractiveness. The images that were used for the final study all had a similar rating of attractiveness. This was used as a manipulation check to make it less likely that attractiveness would become an intervening variable in the overall study.

The survey also underwent a pre-test with a small sample of participants to spot any potentially confusing language or formatting. No concerns were raised during the pre-test and the participants were able to complete the surveys properly and efficiently.

Experimental Design

For the main study, an experimental design was utilized in order to determine how facial prominence could affect perceptions of competency amongst Facebook profile images of men and women. The sample of participants consisted of 177 male and female undergraduate students at the Rochester Institute of Technology. The 177 participants were spread out amongst two experimental groups. Each group evaluated a set of four fictitiously constructed Facebook profile

screenshots. Each screenshot included a generic cover image, a blank number of friends and photos, and the profile picture of either a man or woman. As a manipulation check, all other intervening variables displayed in the screenshot were held constant to decrease the influence that external factors may have had on the evaluation of the profile pictures. In group one, 87 students were shown two images of men and two images of women with either high or low levels of facial prominence (see Figure 1in Appendix A). In group two, 90 students were shown images of the same four men and women with the reverse face-ism levels (see Figure 2 in Appendix A). For example, the image of a female with high face-ism was displayed to group one, while an image of the same female with low face-ism was displayed to group two. In doing so, this ensured that the conditions of the subjects were held as constant as possible to avoid external influences in the evaluation component of the experiment. According to Archer et al. (1983), low face-ism would require a mean score of .15 or lower whereas high face-ism would require a mean score of .60 or higher. The images that were considered low face-ism had a mean face-index score lower than .15, while images that were considered high face-ism had a mean face-index score higher than .60.

Survey

The images were projected on a screen at the front of the classroom and each student was handed a small set of identical surveys to measure their perceptions of competency for each Facebook profile image. A modified version of the Source Credibility Measures scale developed by McCroskey and Teven (1999) was used to do so. This scale separately measures competence, caring/goodwill, and trustworthiness factors and has an alpha reliability measure ranging from .80 to .94 (McCroskey & Teven, 1999). For the purpose of this study, only the competency factor was measured. Participants ranked items listed as *intelligent, trained, expert, informed,*

competent, and *bright*, which were combined to form one measure of an individual's perception of competency (Cronbach's Alpha = .833). In the instruction portion of the questionnaire, the subjects were advised to indicate their feelings and impressions of the photographed person with the use of a semantic differential scale. As mentioned, the items included the opposing adjectives of intelligent versus unintelligent, trained versus untrained, expert versus inexpert, informed versus uninformed, competent versus incompetent, and bright versus stupid (see Appendix A). As a manipulation check, the instructions provided a context for the Facebook profile images by explaining to the participants that the images represented prospective real estate agents. This was done in the hopes that the respondents would better organize their perception levels based on a neutral, real-life situation.

Statistical Analysis

For the first hypothesis, a one-way ANOVA test was first performed to determine the relationship between variables related to perceived competency and face-ism levels. Because there were two experimental groups that each viewed a different version of the images, the version of the study equaled the condition that would represent the independent variable. On the other hand, each question for each image separately represented the dependent variable. Because the six items were rated with high internal consistency and reliability, a mean score for each image was calculated and was used in an independent samples *t*-test. For this *t*-test, the version of the study was the independent variable, while the mean competency score for each image was the dependent variable. For the second hypothesis, a paired samples *t*-test was performed to determine whether or not the gender of the image had an effect on ratings of perceived competency. The total mean ratings that were given to the images of females were compared to the total mean ratings given to the images of males. For the third hypothesis, a factorial ANOVA

test was performed to determine the relationship between perceived competency and the gender of the respondent. The independent variables in this test were the gender of the respondent and the version of the study. The dependent variable was the mean competency score for each image. An alpha level of .05 was used for all statistical tests.

Results

The sample of respondents consisted of 177 undergraduate students with ages ranging from 18 to 55. The majority of students were around 21 years old. There were 95 males, 78 females, and 4 participants that chose not to disclose their gender. In the interest of available time and resources, a majority of the participants were majors in the School of Communication; however, various other majors were represented as well including Engineering, Psychology, Hospitality, Information Technology, Accounting, Finance, Graphic Design, and so forth. Of the participants, about 50% of them reported using Facebook "all of the time," while about 32% of them reported using Facebook "sometimes." The other 18% of the respondents either chose not to respond or reported using Facebook "rarely" or "never."

H1 – Perceived Competency and Face-ism

In the first one-way ANOVA test performed to determine the relationship between face-ism and variables related to perceived competency, the analysis was statistically significant. The first image, Version 1 (high face-ism), yielded mean ratings for all six variables that were significantly higher than Version 2 ($p < 0.001$). The second image, Version 2 (high face-ism), yielded mean ratings that were higher than Version 1. In this case, however, the different ratings for intelligent ($p = 0.356$), informed ($p = 0.095$), and bright ($p = 0.889$) were not statistically significant. The third image, Version 2 (high face-ism), yielded mean ratings that were higher than Version 1. The only item that was not statistically significant was bright ($p = 0.115$). For the

fourth image, Version 1 (high face-ism) yielded mean ratings for all six variables that were significantly higher than Version 2.

For the independent samples *t*-test, all of the mean competency scores were significantly higher for images with high face-ism compared to those with low face-ism (see Table B1). For image one, there was a significant difference in the competency scores for Version 1 ($M = 1.46$, $SD = 0.92$) compared to Version 2 ($M = 0.56$, $SD = 1.07$), $t(173) = 6.00$, $p < 0.001$. For image two, there was a significant difference in competency scores for Version 1 ($M = 1.44$, $SD = 0.95$) compared to Version 2 ($M = 1.73$, $SD = 0.83$), $t(175) = -2.10$, $p = 0.037$. For image three, there was a significant difference in competency scores for Version 1 ($M = 0.92$, $SD = 1.02$) compared to Version 2 ($M = 1.49$, $SD = 0.98$), $t(175) = -3.79$, $p < 0.001$. For image four, there was a significant difference in competency scores for Version 1 ($M = 1.68$, $SD = 1.03$) compared to Version 2 *(*$M = 1.01$, $SD = 0.96$), $t(175) = 4.50$, $p < 0.001$. In every case, the version with higher facial prominence had a mean competency score that was significantly higher than that of the version with lower facial prominence. Therefore, all results were statistically significant.

H2 – Gender of the Image

The paired samples *t*-test found that there was a statistically significant difference between mean ratings of competency for images of females ($M = 1.46$, $SD = 0.85$) compared to images of males ($M = 1.11$, $SD = 0.77$), $t(174) = -6.58$, $p < 0.001$. Contrary to predictions, these results revealed that profile images of females were rated significantly more competent than images of males (see Table B2).

H3 – Gender of the Respondent

The factorial ANOVA test yielded mixed results about how the gender of the respondent might affect mean ratings of competency (see Tables B3 and B4). With that being said, the

version of the study had a statistically significant effect on mean ratings of competency for every image, as supported by previous statistical tests ($p < 0.001$). In the first image, the gender of the respondent had no statistically significant impact on competency scores for male respondents ($M = 0.93$, $SD = 0.10$) compared to female respondents ($M = 1.09$, $SD = 0.11$), $F(1) = 1.01$, $p = 0.30$. The interaction between version and respondent gender was not statistically significant ($p = 0.50$). In the second image, the gender of the respondent did make a significant difference in competency scores for male respondents ($M = 0.93$, $SD = 0.10$) compared to female respondents ($M = 1.81$, $SD = 0.10$), $F(1) = 8.90$, $p = 0.003$. The interaction between version and respondent gender was not statistically significant ($p = 0.977$).

For the third image, the gender of the respondent did make a significant difference in competency scores for male respondents ($M = 1.07$, $SD = 0.10$) compared to female respondents ($M = 1.40$, $SD = 0.11$), $F(1) = 4.82$, $p = 0.030$. The interaction between version and respondent was not statistically significant ($p = 0.764$). For the fourth image, the gender of the respondent did make a significant difference in competency scores for male respondents ($M = 1.15$, $SD = 0.10$) compared to female respondents ($M = 1.56$, $SD = 0.11$), $F(1) = 7.73$, $p = 0.006$). The interaction between version and respondent was not statistically significant ($p = 0.275$). From this data, it can be concluded that the gender of the respondent played a significant role in evaluating competency in three out of the four images. The data also shows that female participants rated images of males and females significantly higher in perceived competency than male participants.

Discussion

As hypothesized, increased facial prominence did generate higher ratings of perceived competency levels for both the individual variables related to competency and for the mean score

of overall competency, as well. This conclusion was not surprising, as most of the literature supports the notion that higher face-ism leads to impressions of dominance, power, higher intelligence, and overall competency (Konrath & Schwarz, 2007; Levesque & Lowe, 1999). From the one-way ANOVA, the data shows that statistically significant differences were lowest for the ratings of "bright" for image two ($p = 0.889$), image three ($p = 0.115$), and image four ($p = 0.49$). Perhaps an explanation for this could be related to the wording of the item. In the semantic differential scale, the item measuring bright required participants to choose a number on a scale between the words bright and stupid. The respondents may have felt as though stupid had a harsher connotation than most of the other opposing adjectives such as "uninformed" and "inexpert." This may have skewed data related to the item of bright, which could have accounted for the low statistical significance for the rating differences in that category. Many controversial studies have attempted to understand the gender differences that emerge with traits such as compassion, kindness, and nurturance. Some argue that such traits are much more indicative of female personalities and attributes than that of males (Seppala, 2013). In fact, according to Seppala (2013), women have been known to report experiencing more compassion than men do in self-report questionnaires. Perhaps this may have influenced some female respondents in an attempt to avoid being too mean or harsh in their judgment of the images. However, because there is no conclusive data on such gender differences, it cannot be known for sure.

Perhaps the most interesting component of this study was the rejection of the second hypothesis. According to the data and statistical analyses, the images of women were rated significantly higher in perceived competency than the images of men. This finding was surprising, as previous literature points to higher competency being linked with higher face-ism, which is more often associated with images of men. In this case, when face-ism levels were the

same for images of men and images of women, the women actually received higher mean competency scores. According to Szillis and Stahlberg (2007), the images of men in curriculum vitae possessed much more facial prominence than that of women, and therefore elicited impressions of increased competency and capability. However, what this study is suggesting is that perhaps because newer media allows for user control of the images themselves, the gender issues of representation that were apparent in more traditional media can be less so in media such as Facebook. As discussed by Rose et al. (2012), images in social media are seen as a continuation of gender stereotypes that are represented in more traditional media. In other words, if the vast majority of women are represented with lower face-ism throughout television commercials, advertisements, and so forth, then it would follow that women are self-representing with lower facial prominence on their social media sites.

What this study provides is statistical support for the idea that women should represent themselves with higher facial prominence in order to appear more competent, perhaps even more so than their male counterparts. This is particularly important when you consider how women make up the majority of all social networking site users in the United States, with 99 million more visits per month than men (Fitzgerald, 2012). According to Fitzgerald (2012), women's presence on social media is much more dominant than men's, giving female users the perfect outlet to present themselves in any way that they would like to. As mentioned before, most of the images found in mass media do not allow for control over the content and depiction of men and women. However, women do have the power to control their social media images, and in an arena where they are already considered more dominant, there is a possibility that social media could actually help women appear more competent.

This data certainly challenges previous literature that paints a much bleaker picture about how women are depicted in popular media. Perhaps social media has more power to break rigid gender-role stereotypes than previously considered. Similarly, the data from this study also stated that the images of women, *despite* facial prominence level, were rated with higher perceived competency scores compared to that of men. This suggests that perhaps there is an innate difference or change occurring with the depiction of women on social media that has generally not occurred in more traditional media. This would be an interesting area for future research in order to better understand whether impressions of women are changing as our medium of communication continues to transform.

For the last hypothesis, it was intriguing to see the mixed results that occurred when attempting to discover the effect respondent gender might have on ratings of perceived competency. It may have been presumed that the increased ratings for images of women were due to an abundance of female respondents, but this is not supported by the data. In fact, 78 of the respondents identified as female, whereas 95 of the respondents identified as male. Because three of the four images yielded statistically significant results for the effect that gender would have on ratings, it is helpful that there are somewhat equal representations of each gender in this research. With that being said, Schwarz and Kurz (1989) had suggested that when viewers are primarily women, competency ratings would be inclusive of attributes such as warmth, compassion, and likeability. Because these traits have been linked to images with lower face-ism levels, this could provide an explanation as to why the female respondents rated images of women with high *and* low facial prominence as more competent than their male counterparts. However, from this data, it cannot be generally concluded that gender had a significant impact on ratings of competency since the first image yielded insignificant results regarding this

relationship. In other words, for at least one of the images, respondent gender did not play a significant role in determining how competent the person was in the Facebook profile picture.

Limitations

Due to available time and resources, the sample for this study was very narrow, including only undergraduate students from the Rochester Institute of Technology. A majority of the participants were students in the School of Communication and majored in Advertising and Public Relations, Communications, Journalism, New Media Marketing, and so forth. However, other majors such as Graphic Design, Information Technology, Software Engineering, and Psychology were represented as well. The majority of students having been majors in communications-related fields may have had an effect on how they rated the perceived competency of each image. Other sampling issues may have stemmed from a narrow age range. Because the majority of participants were around 21 years old, they might have had very different impressions of what it means to be competent compared to someone a bit older. For example, because the participants were asked to evaluate the images as though the subjects were prospective real estate agents, some of the younger respondents may not have had any real-life interactions with people in that profession. This could have influenced their impressions of competency differently than someone with more life experience.

In addition to sampling limitations, the limited availability of financial resources may have also played a factor in the collection of data. Ideally, the survey of this study would have been distributed with the four images attached in paper form so that participants could view them clearly. However, in order to avoid the images being shown in black and white, they were projected on a screen where participants may have had a more difficult time viewing the small images clearly and concisely.

Areas for Future Research

As noted before, a thought-provoking area for future research would be an examination into the effects of face-ism using a real-life sample of social media images. In this study, fictitious Facebook profiles were constructed to simulate actual images found on this popular website. However, because the results suggested that women were judged as more competent then men with regards to high and low levels of facial prominence, it would be interesting to see what the images in social media actually represent. For example, a content analysis of social media images could be conducted, similar to Reichart and Cooley's (2009) study, in order to see how men and women are visually depicting themselves. Are women in social media beginning to shy away from images that focus on their body, such as the ones found in popular mass media? If not, should they? This study suggests that women have the potential to present themselves in ways that are perceived as competent and intelligent, often times even more so than their male counterparts. It could be useful to conduct a more qualitative study that questions why women choose images that include more of their body and less of their face on their social media sites, and what impressions *they* think this elicits to viewers.

This also leads to another potential area for future research, which is a more in-depth look at the connection between online media and job recruitment. With the rise of resume and job-based websites such as LinkedIn, the lines between resume and social networking have been blurred. LinkedIn is a social media website that allows members to market themselves to other professionals and to share their knowledge, skills, and experiences, often times as a means of planning future career trajectories (Caers & Castelyns, 2010). Since its launch in 2003, LinkedIn has been a widely recognized recruitment tool with about two new members joining every second across 200 countries (Zide, Elman, & Shahani-Denning, 2014). According to Caers and

Castelyns (2010), "With the rise of social network sites (SNSs) like LinkedIn and Facebook, individuals are broadcasting themselves on the Internet at a more rapid rate and to a higher extent" (p. 438). They then go on to explain that this information, including information that is inferred from images, is visible to companies, organizations, and potential employers (Caers & Castelyns, 2010).

According to Zide, Elman, and Shahani-Denning (2014), many companies have considered LinkedIn to be a replacement for traditional resumes. One of the innate differences between the two is the ability to include a picture of one's self within the LinkedIn profile. This raises a host of legal and ethical concerns, as some argue that such information as gender, race, ethnicity, and age can be inferred by hiring professionals and included in the recruitment process (Zide et al., 2014). Typically, that information is not legally permitted when recruiting or hiring, however, within images on LinkedIn some of that data is on display voluntarily. When considering the implications that face-ism has on perceptions of competency, it becomes apparent that an examination into how this might relate to LinkedIn images of male and female professionals could be immensely valuable. Additionally, a more qualitative study regarding hiring and recruiting professionals and their impressions of such images could yield potentially useful data.

The implications of the current study have the potential to branch out into other advantageous and worthwhile areas of research. The rise of social media has brought about an abundance of questions and concerns, for which this study merely scratches the surface. In order to gain a more thorough understanding of how social media interacts with gender-role stereotypes and phenomenon such as face-ism, researchers must continue to ask those questions.

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Appendix A

Survey (Figures)

Instructions: Before completing the survey, please answer a few short questions about yourself. **Do not write your name anywhere on this document.** In the survey below, indicate your impressions about the real estate agent pictured on the screen by circling the appropriate number between the pairs of adjectives below. Numbers 1 and 7 indicate a *very strong feeling*. Numbers 2 and 6 indicate a *strong feeling.* Numbers 3 and 5 indicate a *fairly weak feeling*. Number 4 indicates you are *undecided*.

Gender (circle one): **Male** **Female**

Age: _____

Major: _____

How often do you use Facebook? (Circle one): **All the time** **Sometimes** **Rarely** **Never**

IMAGE #1

Very Strong Feeling 1	**Strong Feeling 2**	**Weak Feeling 3**	**Undecided 4**	**Weak Feeling 5**	**Strong Feeling 6**	**Very Strong Feeling 7**

1) Intelligent	1	2	3	4	5	6	7	Unintelligent
2) Untrained	1	2	3	4	5	6	7	Trained
3) Inexpert	1	2	3	4	5	6	7	Expert
4) Informed	1	2	3	4	5	6	7	Uninformed
5) Incompetent	1	2	3	4	5	6	7	Competent
6) Bright	1	2	3	4	5	6	7	Stupid

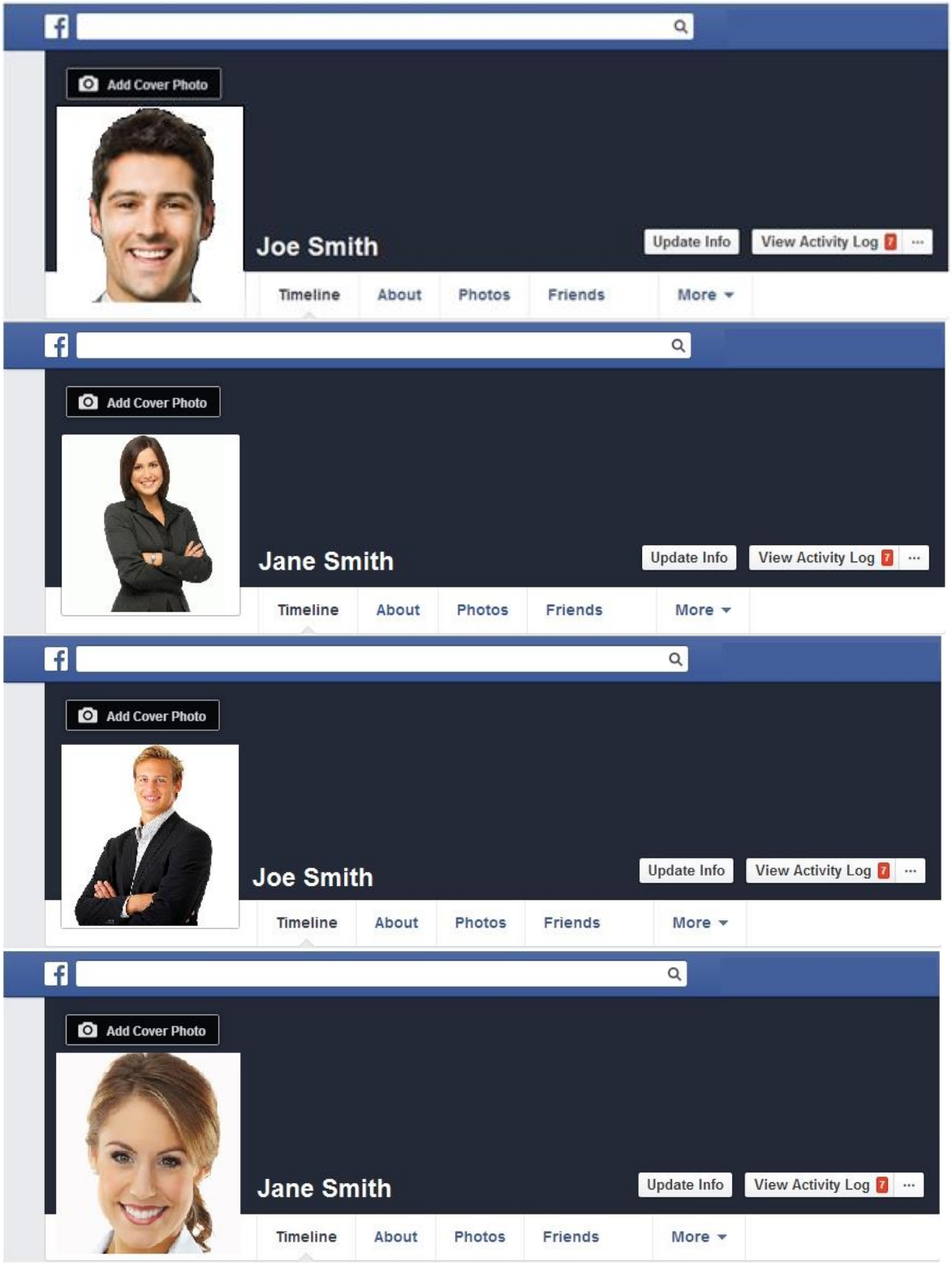

Figure 1: Version 1 of Facebook profile images

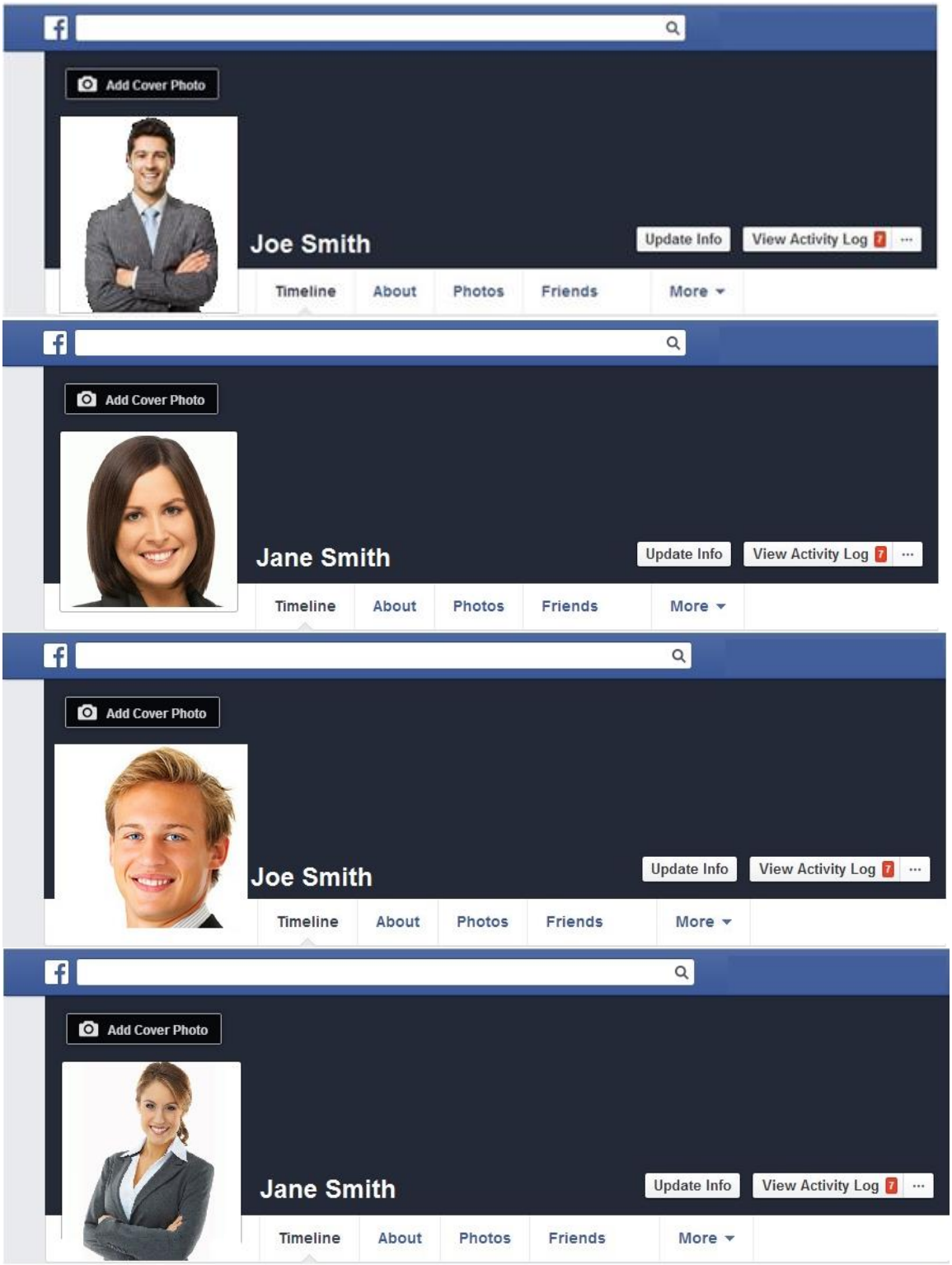

Figure 2: Version 2 of Facebook profile images

Appendix B

Tables

Table 1

Independent Samples t-test Results Comparing Mean Competency Scores to Face-ism

Source	*M*	*SD*	*t*	*df*	*p*
Image 1			6.00	173	0.000
Version 1*	1.46	0.92			
Version 2	0.56	1.07			
Image 2			-2.10	175	0.037
Version 1	1.44	0.95			
Version 2*	1.73	0.83			
Image 3			-3.79	175	0.000
Version 1	0.92	1.02			
Version 2*	1.48	0.98			
Image 4			4.50	175	0.000
Version 1*	1.68	1.03			
Version 2	1.01	0.96			

Note. * = high face-ism

Table 2

Paired Samples t-test Results Comparing Mean Competency Scores to Gender of the Image

Source	*M*	*SD*	*t*	*df*	*p*
Pair 1			-6.58	174	0.000
Male	1.11	0.77			
Female	1.46	1.85			

Table 3

Analysis of Variance Results Comparing Mean Competency Scores to Gender of Respondent

Source	*M*	*SD*	*F*	*p*
Image 1			1.10	0.296
Male	0.93	0.10		
Female	1.09	0.11		
Image 2			8.90	0.003
Male	1.42	0.09		
Female	1.82	0.10		
Image 3			4.82	0.030
Male	1.07	0.10		
Female	1.40	0.11		
Image 4			7.73	0.006
Male	1.15	0.10		
Female	1.56	0.11		

Table 4

Analysis of Variance Results Comparing Mean Competency Scores to Gender of Respondent and Version of Study

Source		*M*	*SD*	*F*	*p*
Image 1				0.45	0.502
Male	Version 1	1.33	0.15		
	Version 2	0.53	0.14		
Female	Version 1	1.60	0.15		
	Version 2	0.59	0.17		
Image 2				0.001	0.977
Male	Version 1	1.25	0.13		
	Version 2	1.59	0.12		
Female	Version 1	1.65	0.13		
	Version 2	1.98	0.15		
Image 3				0.91	0.764
Male	Version 1	0.77	0.15		
	Version 2	1.36	0.14		
Female	Version 1	1.06	0.15		
	Version 2	1.74	0.17		
Image 4				1.20	0.275
Male	Version 1	1.40	0.15		
	Version 2	0.89	0.14		
Female	Version 1	1.98	0.15		
	Version 2	1.14	0.16		